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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR   | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/308,403      | 10/21/1999  | COLIN STANLEY FITCHETT | BB1180B             | 6086             |

26633 7590 11/22/2002

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WASHINGTON, DC 20006

EXAMINER

PRATS, FRANCISCO CHANDLER

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

1651

DATE MAILED: 11/22/2002

25

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/308,403

Applicant(s)

FITCHETT, COLIN STANLEY

Examiner

Francisco C Prats

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 September 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3, 7-26 and 28-59 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 7-26 and 28-59 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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#### DETAILED ACTION

The amendment filed September 13, 2002, has been received and entered. The Rule 132 Declaration of Roderick Greenshields has been received and considered. The text of those sections of Title 35, U.S. Code, not included in this action can be found in a prior office action.

Claims 58 and 59 have been added.

Claims 1-3, 7-26 and 28-59 are pending and are examined on the merits.

#### *Claim Rejections - 35 USC § 103*

Claims 1-3, 7-26 and 28-59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Greenshields et al (U.S. Pat. 5,530,112) in view of Crawford et al (U.S. Pat. 5,200,338).

Greenshields discloses the peroxidase-catalyzed oxidative gelling of feruloylated arabinoxylans from various plant and cereal sources, and the use of said gels in all of the applications recited in the claims. See, e.g., Abstract; see also col. 5, lines 17-50. Greenshields differs from the claims in that Greenshields adds the peroxidase's substrate, peroxide, directly to the gelling composition, as opposed to generating

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the peroxide *in situ* by adding glucose oxidase and glucose, as recited in applicant's claims.

However, Crawford clearly discloses that a combination of glucose and glucose oxidase can be used effectively to generate *in situ* the peroxide required for peroxidase action on a polysaccharide substrate. See col. 6, lines 32-43. Thus, the artisan of ordinary skill at the time of applicant's invention clearly would have recognized that an effective method of generating the peroxide required for peroxidase action in Greenshields' process would have been the generation of the peroxide *in situ* by adding glucose and glucose oxidase to the gelling composition, as disclosed in Crawford. The artisan of ordinary skill, reasonably expecting that Crawford's *in situ* peroxide generation methods would have functioned in Greenshields' process, clearly would have been motivated to have substituted Crawford's methods for the direct addition of peroxide disclosed in Greenshields. Therefore, absent some unexpected result, the claims must be considered obvious under § 103(a).

All of applicant's argument regarding this ground of rejection has been fully considered but is not persuasive of error. It is noted, as discussed in the previous office action, that Crawford discloses the *in situ* generation of peroxide for

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use in a degradative process employing a peroxidase, whereas Greenshields' process is directed to a gelling process employing a peroxidase. However, as also discussed in the previous office action, the critical feature common to both processes is that each process employs a peroxidase to generate a final product, and peroxidases require a peroxide substrate. Thus, as further discussed in the previous office action, the artisan of ordinary skill, recognizing the need for an effective method of generating the peroxide required for peroxidase action in Greenshields' process, would have reasonably expected that Crawford's method of *in situ* peroxide generation, by adding glucose and glucose oxidase to the gelling composition, would have been suitable for use in Greenshields' process.

The Declaration of Roderick Greenshields does not demonstrate an unexpected result, as argued by applicant. In essence, applicant's argument is that one of ordinary skill would have expected Crawford's *in situ* generation of peroxide to have reversed the peroxidase-catalyzed polymerization reaction disclosed in the Greenshields patent. However, neither the Declaration nor applicant's argument provides any evidence or reasoning, logical or scientific, which supports that conclusion. It must be kept in mind that while the peroxidases of the Crawford and Greenshields patents have the common feature

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of using peroxide as a substrate, the enzymes in these two references are clearly different to the extent that Greenshields' enzyme catalyzes a polymerization reaction and Crawford's enzyme catalyzes a degradative reaction. Thus, contrary to applicant's argument, the artisan of ordinary skill would have reasonably expected peroxide generated *in situ* to have allowed Greenshields' peroxidase to function in its normal disclosed manner.

It must be kept in mind that the holding of obviousness is not based on the substitution of Crawford's degradative peroxidase for Greenshields' polymerizing peroxidase. While one of ordinary would have expected Crawford's degradative peroxidase to have caused degradation instead of the polymerization catalyzed by Greenshields, the holding of obviousness is simply not based on these grounds. Rather, applicant's claims merely recite compositions and processes whereby the substrate for Greenshields' polymerizing enzyme is generated *in situ* by the action of an oxidase. The notoriously well known process of using oxidases to generate peroxide *in situ* for peroxidase reactions cannot be considered a patentable improvement.

No claims are allowed.

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Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Francisco C Prats whose telephone number is 703-308-3665. The examiner can normally be reached on Monday through Friday, with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G Wityshyn can be reached on 703-308-4743. The fax phone numbers for the organization where this application or proceeding is assigned

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are 703-872-9306 for regular communications and 703-872-9307 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

A handwritten signature in black ink, appearing to read 'F. Prats', is positioned above the printed name.

Francisco C Prats  
Primary Examiner  
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FCP

November 22, 2002